

REMARKS

Applicants respectfully solicit favorable reconsideration.

Applicants respectfully submit claims 1, 2, 3, 4, 5, 6 and 7. Claims 8 and 9 are canceled.

Amended claim 1 includes language from claim 2 and claims 2 and 3 are amended to relate to respective descriptions of (A) in claim 1. Amended claim 4 includes language from claim 5 and claims 5 and 6 are amended to relate to respective descriptions of (A) in amended claim 5.

The present invention relates to a rubber-reinforced vinyl resin which is obtained by polymerizing a vinyl monomer (B) in a presence of a rubber-like copolymer (A), and the rubber-like copolymer (A) is featured in that 1-octene-containing ethylene copolymer rubber (i.e., Component (II)) with a Mooney viscosity of less than 15 is used in combination with the other ethylene- α -olefin copolymers with a Mooney viscosity of 15 or higher (i.e., Component (I) or (III)).

One of the advantages of the present invention can be readily understood from comparison between Examples 1-6 and Comparative Examples 1-7. The present invention is superior in mechanical strength and appearance (flow marks, color unevenness, weld appearance and colorability) through the combined use of Component (II) plus Component (I) or (III), as shown in Table 1.

Applicants traverse the rejection of claims 1-9 under 35 U.S.C. 103(a) over U.S. Patent No. 6,251,998 (Medsker et al.) or U.S. Patent No, 6,610,787 (Isoda et al.), each in view of U.S. Patent No. 6,403,716 (Nishihara) further in view of U.S. Patent No. 5,677,383 (Tsuij et al.).

Reconsideration and withdrawal of the rejection is solicited.

Applicants respectfully submit the references would not have been combined, and even if for only the sake of argument (*arguendo*) they were, the combination would not have taught the claimed inventions. It is not a matter of taking a point from this patent, a point from that patent, and so on to assemble Applicants' invention using Applicants' own disclosure as the template. That's proscribed hindsight, not foresight based on the prior art. In short, Applicants submit there is no *prima facie case* of obviousness.

Medsker '998 relates to hydrosilylation of thermoplastic elastomers, but does not deal with rubber-reinforced thermoplastic resins. Indeed, Medsker '998 requires hydrosilylation agents¹ as seen through, including the Abstract ("by hydrosilylation crosslinkin"), column 1, line 11 ("using hydrosilylation crosslinking"), column 2, lines 14-15 ("unexpectedly low concentrations of hydrosilylation agent"), column 5, lines 22-42 "Hydrosilylation Agents"), column 8, lines 26-30 and 35-37("hydrosilylation agent and catalyst can be incorporated into the composition... and the mixture masticated ... until vulcanization"). A hydrosilylation agent – e.g., a silicon hydride having at least 2 SiH groups - seems quite removed from indeed from Applicants' claims 1 and 4, and would not have suggested either the claims as a whole or the vinyl monomer specifically. Thus, it is submitted that Medsker'998 deals with totally different products from the present invention.

¹ The Board and the courts reverse rejections that require destroying the prior art reference by eliminating essential elements. *In re Ratti*, 123 USPQ (BNA) 349 (CCPA 1959) ("We hold, further, that the combination of Jepson with Chinnery et al. is not a proper ground for rejection of the claims here on appeal. This suggested combination of references would require a substantial reconstruction and redesign of the elements shown in Chinnery et al. as well as a change in the basic principles under which the Chinnery et al. construction was designed to operate. Once appellant had taught how this could be done, the redesign may, by hindsight, seem to be obvious to one having ordinary skills in the shaft sealing art. However, when viewed as of the time appellant's invention was made, and without the benefit of appellant's disclosure, we find nothing in the art of record which suggests appellant's novel oil seal as defined in claims 1, 4 and 7."); *In re Hartman*, 186 USPQ (BNA) 366 (BOP 1974) ("to do so would destroy that on which the invention of Graham et al. is based, namely, the use of very short fibers. We will not sustain this rejection.").

Moreover, Medsker'998 does not specifically disclose the rubber including polymerized monomer units based on 1-octene such as the present Component (II) or use of rubbers having different Mooney viscosities, as recognized in the Office Action at page 4, first full paragraph.

The other primary reference to Isoda is also wide of the mark. Isoda discloses a composition which comprises a rubber-reinforced thermoplastic resin as component (A) and an ethylene-alpha-olefin copolymer having a Mooney viscosity (ML1+4, 100°C) of 40 to 110 as component (B). Isoda discloses ethylene-alpha-olefin-(nonconjugated diene) copolymers as rubber-like copolymer for the component (A) on column 3, lines 26 to column 4, line 19.

However, Isoda does not specifically disclose the present Component (II) or use of rubbers having different Mooney viscosities, as recognized in the Office Action, page 4, first full paragraph.

The third reference to Nishihara '716 would not have been combined with either of the primary references, and even if it would have been combined, the present claimed inventions would have been unobvious to a person of ordinary skill in the art. Conceptually, a person of ordinary skill in the art would not have been led to Nishihara '716, nor from Nishihara '716 to either of the primary references, and even if there were a bona fide reason to combine it with one of the primary references, the combination would not have taught Applicants' claimed inventions.

Nishihara '716 refers to 1-99 parts by weight of a copolymer A and 1-99 parts by weight of a propylene resin B, which is quite different system than defined by Applicants' claims 1 and

4. Nishihara'716 relates to a thermoplastic rubber composition which comprises (A) a crosslinkable rubbery polymer, and (B) a polypropylene resin, said thermoplastic rubber composition being crosslinked, as Nishihara '716 state in the Abstract and assert in their claim 1.

In comparison, the composition of Nishihara'716 is completely different from the present composition which is obtainable by polymerizing a vinyl monomer in a presence of a rubber-like copolymer.

Now the Examiner has referred to Nishihara'716 disclosing use of octene-1 has a superior effect on providing flexibility and mechanical strength to the copolymers on column 3, lines 13-15. However, the statement is an over-generalization as the passage only pertains to copolymer A in Nishihara '716.

Furthermore, Nishihara '716 is silent about the Mooney viscosity of the rubbery polymer (A) or combined use of two rubbers different in Mooney viscosity. *See, e.g., Ex parte Browne, 19 USPQ2d 1609, 1612 (BOPI 1990)* ("since the prior art is silent as to this feature, we are unable to sustain the rejection which we originally precipitated.").

In short, Nishihara'716 does not suggest any structure nor advantage of the present invention, nor would it have lent itself to have been selected in the first place for combination with either of the two primary references.

Turning to Tsuji, this fourth reference would not have been combined with Nishihara'716, and even if for only the sake of argument those two references were combined, they would not have been combined in turn with either of the primary references.

Tsuji discloses an ethylene-alpha-olefin-non-conjugated diene copolymer rubber composition which comprises a low molecular weight copolymer (having a Mooney viscosity of 10 to 150) and a high molecular weight copolymer (having a Mooney viscosity of 100 to 500), as apparently seen from the Office Action, page 4, last sentence.

Tsuji describes apparently a physical mixture of copolymer rubbers as seen from column 5, lines 3-15. Tsuji is therefore rather different indeed from the present composition in which the copolymer rubber is copolymerized with a vinyl monomer.

Tsuji mentions a Banbury mixer and a roll mill, but again Tsuji does not appear to disclose, describe or suggest copolymerization with a vinyl monomer as in claims 1 and 4.

Although Tsuji discloses that a combined use of rubbers different in Mooney viscosity, Tsuji only suggests that it inhibits a gel from being produced during processing, achieves a high degree of cross-linking, and improves compression set, shape retention and sponge surface skin, as described in Abstract thereof.

Contriariwise, in the present invention, the combined use of the rubbers improves appearance (flow marks, color unevenness, weld appearance and colorability) as mentioned above. Apparently, Tsuji deals with a subject completely different from the present invention.

Tsuji is silent about the rubber having polymerized monomer units based on 1-octene as in claim 1 or claim 4.

Thus, Tsuji suggests neither any structure nor the advantage(s) of the present invention.

Finally, those skilled in the art are well-aware that differences in catalysts, blending, mixing, rolling, dynamic mixing, as well as differences in monomer content can yield results that are not foreseen.

Accordingly, Applicants courteously submit their claims define novel, unobvious inventions over the cited references. A notice of allowance is respectfully solicited.

Respectfully submitted,

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